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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,652	11/21/2001	Michael L. Bessire	10013342-1	1407

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EXAMINER	
PUENTE, EMERSON C	

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/989,652	BESSIRE, MICHAEL L.	
	Examiner	Art Unit	
	Emerson C. Puente	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20,23-29,32-35,38-44 and 46-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20,23-29,32-35,38-44 and 46-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11/21/01* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. This action is made **FINAL.**

Claims 20, 23-29, 32-35, 38-44, and 46-48 have been examined. Claims 1-19, 21, 22, 30, 31, 36, 37, and 45 has been cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 20, 23-29, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,701,449 of Davis et al. referred hereinafter "Davis" in view of US Patent No. 6,732,289 of Talagala et al. referred hereinafter "Talagala", and in further view of US Patent No. 5,588,110 of DeKoning et al. referred hereinafter "DeKoning" and US Patent No. 5,987,621 of Duso et al. referred hereinafter "Duso".

In regards to claims 20 and 29, Davis discloses a computer system comprising:

a first iSCSI controller operable to receive a iSCSI I/O request over a TCP/IP network; (see figure 1);

a second iSCSI controller couple to the first iSCSI controller (see figure 1) and wherein responsive to detecting a failure of the first iSCSI controller, the second iSCSI controller assumes the network address of the first iSCSI controller (see column 4 lines 5-15 and 40-45).

However, Davis fails to disclose:

copying the SCSI I/O request to memory associated with the second iSCSI controller,

acknowledge to a host that the SCSI I/O request has been committed, and

wherein responsive to detecting a failure of the first iSCSI controller, if the second iSCSI controller determines that the iSCSI I/O request has been committed but not completed, retrieves the copy of the I/O request from the memory and writes the copy of the I/O request to a storage system.

Talagala discloses the current owner selectively executing only the requests in its queue that have not been committed to the disk drives, indicating wherein responsive to detecting a failure of the first controller, if the second controller determines that the I/O request has been committed but not completed, retrieves the copy of the I/O request from the memory and writes the copy of the I/O request to a storage system (see column 3 lines 59-67 and column 4 lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Davis and Talagala. A person of ordinary skill in the art at the time of the invention would have been motivated because Davis is concerned with providing failover (see column 4 lines 25-33) and Talagala provides a system which addresses problems associated with the failing over a storage device from one storage controller to another storage controller (see column 1 lines 60-62).

Furthermore, Duso discloses acknowledging to a host that the request has been committed (see column 1 lines 30-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to acknowledge to a host that the request has been committed. A person of ordinary skill in the art at the time of the invention would have been motivated because Talagala disclose committing results onto disk (see column 3 lines 59-63) and it is well known, as per teachings of Duso, to acknowledge to a host that the request has been committed (see column 1 lines 30-45). Furthermore, Davis and Talagala is concerned with failover and acknowledging to a host that the request has been committed, as per teachings of Duso, enables the host to know which I/O operation to retry when problems occur (see column 1 lines 55-60).

Furthermore, DeKoning discloses request within the controller are copied into the memory of the secondary controller, indicating copying the SCSI I/O request to memory associated with the second iSCSI controller (see column 1 lines 50-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings. A person of ordinary skill in the art at the time of the invention would have been motivated because Talagala discloses the controllers having queues (memory) wherein the requests are stored (see column 3 lines 67 to column 4 lines 1) and copying request from a first controller cache (memory) onto a second controller cache (memory), as per teachings of DeKoning, is a known and used mean to store request onto the queue (memory) of the secondary controller.

In regards to claim 23, Davis discloses:

wherein the second controller includes a first network address and a second network address, the first network address corresponding to a network address of the second iSCSI

controller and the second network address corresponding to the network address of the first iSCSI controller (see column 4 lines 5-15 and 40-45).

In regards to claim 24, Davis discloses:

a first iSCSI TCP/IP protocol stack coupled between the first iSCSI controller and the network, and a second iSCSI TCP/IP protocol stack coupled between the ISCSI controller and the network (see column 3 lines 50-55)

In regards to claims 25 and 32, Davis discloses:

wherein the first iSCSI controller and the second iSCSI controller are each configured to communicate with a remotely located host server over the network (see column 1 lines 15-25) .

In regards to claim 26, Talagala discloses:

wherein the SCSI I/O request is removed from the second iSCSI controller at the time corresponding to the completion of the SCSI I/O request (see column 4 lines 59-67).

In regards to claim 27, Davis discloses:

wherein the storage system includes a fiber channel storage unit (see column 2 line 67).

In regards to claims 28 and 33, Davis discloses

wherein the second iSCSI controller retrieving the network address of the first iSCSI controller from the memory (see column 4 lines 5-15 and 40-45).

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Talagala.

In regards to claim 34, Davis discloses a computer system comprising:

means for detecting whether a SCSI I/O request can be processed at a first TCP/IP network address and responsive to detecting that the SCSI I/O request cannot be processed at the first TCP/IP network address, means for assuming the first TCP/IP network address from a second TCP/IP network address (see column 4 lines 5-15 and 40-45).

However, Davis fails to disclose:

means for determining whether the SCSI I/O request has been committed,

responsive to determining that the SCSI I/O request has been committed, means for retrieving a copy of the SCSI I/O request; and

means for writing or reading data corresponding to the copy of the SCSI I/O request to or from a storage system.

Talagala discloses the current owner selectively executing only the requests in its queue that have not been committed to the disk drives, indicating means for determining whether the SCSI I/O request has been committed, responsive to determining that the SCSI I/O request has been committed, means for retrieving a copy of the SCSI I/O request; and means for writing or reading data corresponding to the copy of the SCSI I/O request to or from a storage system (see column 3 lines 59-67 and column 4 lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Davis and Talagala. A person of ordinary skill in the art at the time of the invention would have been motivated because Davis is concerned with providing failover (see column 4 lines 25-33) and Talagala provides a system which addresses problems associated with the failing over a storage device from one storage controller to another storage controller (see column 1 lines 60-62).

Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Talagala, and in further view of Duso.

In regards to claim 48, Davis in view of Talagala fails to disclose:

acknowledging to a host that the request has been committed

Furthermore, Duso discloses acknowledging to a host that the request has been committed (see column 1 lines 30-45).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to acknowledge to a host that the request has been committed. A person of ordinary skill in the art at the time of the invention would have been motivated because Talagala disclose committing results onto disk (see column 3 lines 59-63) and it is well known, as per teachings of Duso, to acknowledge to a host that the request has been committed (see column 1 lines 30-45). Furthermore, Davis and Talagala is concerned with failover and acknowledging to a host that the request has been committed, as per teachings of Duso, enables the host to know which I/O operation to retry when problems occur (see column 1 lines 55-60).

Claims 35 and 38-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Talagala and DeKoning.

In regards to claim 35, Davis discloses a computer system comprising:

logic configured to detect a failure of the second network controller and logic further configured to assume the network address of the second network controller (see column 4 lines 5-15 and 40-45).

However, Davis fails to disclose:

a communication port configured to receive status information and a copy of a SCSI I/O request from a second network controller and a SCSI I/O request over a TCP/IP network, a memory configured store the copy of the SCSI I/O request;

logic configured the determine where the SCSI I/O request has been committed by the second network controller, wherein responsive to determining that the SCSI I/O request has been committed, retrieve the copy of the SCSI I/O request from the memory and write or read data corresponding to the copy of the SCSI I/O request to or from a storage system.

Talagala discloses the current owner selectively executing only the requests in its queue that have not been committed to the disk drives, indicating logic configured the determine where the SCSI I/O request has been committed by the second network controller, wherein responsive to determining that the SCSI I/O request has been committed, retrieve the copy of the SCSI I/O request from the memory and write or read data corresponding to the copy of the SCSI I/O request to or from a storage system (see column 3 lines 59-67 and column 4 lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Davis and Talagala. A person of ordinary skill in the art at the time of the invention would have been motivated because Davis is concerned with providing failover (see column 4 lines 25-33) and Talagala provides a system which addresses problems

associated with the failing over a storage device from one storage controller to another storage controller (see column 1 lines 60-62).

Furthermore, DeKoning discloses request within the controller are copied into the memory of the secondary controller, indicating a communication port configured to receive status information and a copy of a SCSI I/O request from a second network controller and a SCSI I/O request over a TCP/IP network, a memory configured store the copy of the SCSI I/O request (see column 1 lines 50-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings. A person of ordinary skill in the art at the time of the invention would have been motivated because Talagala discloses the controllers having queues (memory) wherein the requests are stored (see column 3 lines 67 to column 4 lines 1) and copying request from a first controller cache (memory) onto a second controller cache (memory), as per teachings of DeKoning, is a known and used mean to store request onto the queue (memory) of the secondary controller.

In regards to claim 38, Davis discloses:

wherein the logic is configured to assign the network controller with a primary network address and a secondary network address, the primary network address corresponding to the network address of the network controller before detected failure of the second network controller, the secondary network address corresponding to the network address of the second network controller substantially upon detected failure of the second network controller (see column 4 lines 5-15 and 40-45).

In regards to claim 39, Davis discloses:

an iSCSI TCP/IP protocol stack coupled between the network controller and the network (see column 3 lines 50-55)

In regards to claim 40, Davis discloses:

wherein the network controller is configured as an iSCSI controller (see column 3 lines 10-15).

In regards to claim 41, Davis discloses:

wherein the first iSCSI controller and the second iSCSI controller are each configured to communicate with a remotely located host server over the network (see column 1 lines 15-25) .

In regards to claim 42, Davis discloses:

wherein the network includes an IP network (see column 3 lines 47-55).

In regards to claim 43, Davis discloses:

a second communication port configured to enable access to the storage system (see figure 2 item 206, 208 and column 2 lines 50-65).

In regards to claim 44, Davis discloses:

logic retrieving the network address of the second network controller from the memory (see column 4 lines 5-15 and 40-45).

Claims 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of US Patent No. 5,768.623 of Judd et al. referred hereinafter "Judd".

In regards to claim 46, Davis discloses:

a first iSCSI controller (see figure 1);

a second iSCSI controller, the second iSCSI controller coupled to the first iSCSI controller (see figure 1), the first iSCSI controller configured to receive an I/O request over a network (see column 2 lines 55-58) and, wherein responsive to the second iSCSI controller detecting a failure of the first iSCSI controller, the second iSCSI controller assumes the network address of the first iSCSI controller and identifies to a server that the second iSCSI controller has assumed the network address of the first iSCSI controller (see column 4 lines 5-15 and 40-45).

However, Davis fails to explicitly disclose:

responsive to the second iSCSI controller detecting a failure of the first iSCSI controller, receives the I/O request resent from the server, and writes or reads data corresponding to the resent I/O request to or from a storage system.

Judd discloses when an adapter or controller goes down, its operations are taken over by a second adaptor or second controller, and the failed transactions are resent by the host or server to the second adapter (see column 7 lines 40-50), indicating responsive to the second iSCSI controller detecting a failure of the first iSCSI controller, receiving the I/O request resent from the server, and writing or reading data corresponding to the resent I/O request to or from a storage system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Davis and Judd. A person of ordinary skill in the art at the time of the invention would have been motivated because Davis is concerned with providing failover (see column 4 lines 5-15 and 40-45) and responsive to the second iSCSI controller detecting a failure of the first iSCSI controller, receiving the I/O request resent from the server,

and writing or reading data corresponding to the resent I/O request to or from a storage system, as per teaching of Judd, provides failover (see column 8 line 50).

In regards to claim 47, Davis discloses:

receiving at a first TCP/IP network address a SCSI I/O request; detecting whether the SCSI I/O request can be processed at the first TCP/IP network address; responsive to detecting that the SCSI I/O request cannot be processed at the first TCP/IP network address, assuming the first TCP/IP network address from a second TCP/IP network address; identifying to a server the assumption of the first TCP/IP network address from the second TCP/IP network address (see column 4 lines 5-15 and 40-45).

However, Davis fails to explicitly disclose:

receiving the SCSI I/O request resent from the server; and writing or reading data corresponding to the resent SCSI I/O request to or from a storage system.

Judd discloses when an adapter or controller goes down, its operations are taken over by a second adaptor or second controller, and the failed transactions are resent by the host or server to the second adapter (see column 7 lines 40-50), indicating responsive to detecting the SCSI I/O request cannot be processed, receiving the SCSI I/O request resent from the server and writing or reading data corresponding to the resent SCSI I/O request to or from a storage system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Davis and Judd. A person of ordinary skill in the art at the time of the invention would have been motivated because Davis is concerned with providing failover (see column 4 lines 5-15 and 40-45) and responsive to detecting the SCSI I/O request

cannot be processed, receiving the SCSI I/O request resent from the server and writing or reading data corresponding to the resent SCSI I/O request to or from a storage system, as per teaching of Judd, provides failover (see column 8 line 50).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See PTO 892.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emerson C. Puente whose telephone number is (571) 272-3652. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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8/17/05

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